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ABSTRACT

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The Role of the Therapist in the Self-Control of Obesity

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Abstract

The role of the therapist was varied in a weight reduction program. When meetings with the therapist were "faded out," over the duration of the ten week treatment period, subjects lost significantly more weight compared to subjects who met with the therapist on a regular basis; both differed significantly from controls. Six months after therapy, subjects who had regularly met with the therapist during the treatment period had gained back all the weight they had lost during treatment; they no longer differed from controls. Subjects who had had the therapist "faded out," however, maintained their losses. Self-control should be viewed as an operant. The therapist should be viewed as an important source of external control and subjects need to be shaped into relying less on him in order to develop adequate self-control.

The Role of the Therapist in the Self-Control of Obesity

A frequently reported finding of investigators in the area of self-control is that treatment procedures, particularly behavioral ones, appear to have a substantial effect on target behaviors during treatment, but are generally unsuccessful in producing long-term abstinence (e.g. Bernstein, 1970; Marston and McFall, 1971).

Recent research has shown that numerous factors such as subject motivation and personality (e.g. Best and Steffy, 1971; Best, 1975) modulate short-term and long-term therapeutic efficacy. Another possible source of the failure to produce sustained self-control may have its basis in the manner in which self-control has been conceptualized.

In most self-control investigations, therapists meet with subjects on some regular basis during the treatment phase of the study and then terminate the treatment abruptly, (e.g. Horan, Baker, Hoffman, and Shute, 1975). Within a behavioral context the regular meetings with the therapist may be viewed as serving as an important source of external control over the target behavior. If the self-control of a behavior is viewed as an operant, per se, with a very small probability of occurrence for the client, then the advisability of a treatment procedure that abruptly terminates such an important source of control is questionable. Perhaps if reliance on the therapist were gradually reduced in self-control therapy, a gradual increase in the relative amount of internal control over the target behavior might then ensue.

The present study investigated the effect of "fading out" meetings with the therapist as a source of control in a weight reduction program. It was hypothesized that subjects who saw the therapist progressively less over the

period of therapy would come to rely on him less as a source of control and would be more likely to develop methods of control that would produce more substantial long-term and short-term benefits.

Most behavioral approaches to self-control, when divested of theoretical accoutrements, may be viewed as involving basically reinforcement (positive and/or negative) or punishment or both. Thus, for example, Homme's coverant control procedure (Homme, 1965) requires subjects to engage in a highly probable behavior (a positive reinforcer) to strengthen coverants. Stimulus satiation procedures (e.g. Lando, 1975; Resnick, 1968), which are especially popular methods for treatment of smoking, assume that forced, concentrated repetition of a particular behavioral act will produce aversive consequences that will reduce the future probability that the behavior will occur. Since reinforcement and/or punishment are basic ingredients of behavioral self-control programs, it was decided to examine them within the context of the present study.

Method

Twenty-four male and 24 female graduate students who volunteered to participate in a weight reduction program were randomly assigned to one of six treatment groups, with the provision that there be four males and four females per group. Three subjects dropped out during the first week of the program and were replaced by others on a waiting list. The treatment groups were derived by a factorial combination of two variables: Therapy Mode (Fade, No Fade, and No Therapist) and Consequence Type (Punishment and Reinforcement).

The therapy program was ten weeks in duration. The program was designed to control weight by emphasizing caloric reduction. In those conditions where subjects were to meet with the therapist (the senior author), all eight

subjects in each group did so together. The sessions were approximately one hour each and the therapist would always outline the appropriate procedure for a group at least once each meeting. At the initial portion of each therapy session, each subject was weighed to the nearest half-pound in front of the group. During the sessions, Subjects were free to respond to each other and the therapist. They typically made suggestions to each other about particular diets, etc., that were low in calorie value. The therapist, while supportive, did not answer idiosyncratic questions during the sessions; he merely reiterated the general procedure.

In the Fade groups, subjects met with the therapist during the first, third, sixth, and tenth weeks. In the No Fade groups, subjects met with the therapist each of the ten weeks. In the No Therapist groups, subjects met with the therapist only during the tenth week. In the Punishment groups, subjects were instructed that whenever they felt the need to control the urge to eat they should say "No!" to themselves and if possible, go to a neutral (i.e. away from food) location, e.g. the bedroom in the house, and stay there for 15 minutes. In the Reinforcement groups, subjects were told that when they felt the need to control the urge to eat they should engage in the coverant sequence outlined by Homme (1965). The coverants were to be followed by the self-awarding of points which were to be exchanged at some later time for positive reinforcers of idiosyncratic value.

All six groups had an introductory meeting one week prior to the start of the program in which the details of the procedure for each group was given. At that time a list of the caloric value of many popular goods was provided as well. At this meeting subjects paid a \$40.00 deposit of which \$15.00 was returned at the end of the ten week therapy period. The remaining \$25.00 was mailed to subjects when they sent in a questionnaire six

months later. The questionnaire asked a number of questions concerning how subjects enjoyed the program, how it might be changed, and, most importantly, what their present weight was. Subjects were instructed that if the questionnaire was not returned within one month following the due date, the \$25.00 would be donated to charity.

Results

For each of the treatment groups, weight at the termination of the ten week therapy period was compared with weight prior to the start of the therapy period. Table 1 contains the raw data expressed as a percentage of pre-treatment weight loss, $(\text{post-weight} - \text{pre-weight}) / \text{pre-weight} \times 100$. T-tests indicated that Fade and No Fade groups had a significant weight loss by the end of therapy, but that neither of the No Therapist groups had (see Table 1). A 3×2 analysis of variance yielded a significant effect for Therapy Mode, $F(2,42) = 60.00, p < .001$ and a significant Therapy Mode X Consequence Type interaction, $F(2,42) = 52.50, p < .001$. The Fade groups had lost significantly more weight by the end of the therapy period than did either the No Fade groups, $F(1,42) = 40.02, p < .001$ or the No Therapist groups, $F(1,42) = 135.00, p < .001$. The No Fade groups had lost significantly more weight than the No Therapist groups by the end of therapy as well, $F(1,42) = 28.02, p < .001$. There was no main effect for

Insert Tables 1 and 2 about here

Consequence Type, although Table 1 indicates that slightly more weight loss was obtained by using the Punishment procedure as opposed to the Reinforcement procedure in the Fade and No Fade conditions. Table 2 contains the data comparing weight as reported by subjects in their questionnaires mailed six

months after therapy end with weight as measured at the beginning of therapy. Three subjects failed to meet the deadline for returning questionnaires, and their data were excluded from analysis. Percentage weight loss measures were derived in the same manner as the data of Table 1. T-tests, shown in Table 2, revealed significant weight losses only for the Fade groups. An analysis of variance indicated a significant main effect for Therapy Mode, $F(2,39) = 28.02, p < .001$ and a significant interaction of Therapy Mode and Consequence Type, $(F(2,39) = 28.42, p < .001)$. The Fade groups reported a greater weight loss than did either the No Fade groups, $F(1,39) = 45.45, p < .001$ or the No Therapist groups, $F(1,39) = 38.28, p < .001$, which did not differ from each other. Thus, the Fade groups were able to sustain a significant weight loss, while No Fade groups were not. This effect is dramatically evident in the data of Tables 1 and 2, by comparing weight scores measured at the end of therapy with those reported in the questionnaires. The difference in percentage loss scores calculated on weights at the therapy end and percentage loss scores calculated from follow-up reports were subjected to analysis. T-tests (see Table 3) revealed that both the No-Fade-Punishment group and the No-Fade-Reinforcement group showed significant weight gain during the six month period after therapy end.

Insert Table 3 about here

These conclusions were supported by an analysis of variance on the data of Table 3 as well. A significant Therapy Mode main effect, $F(2,39) = 12.81, p < .01$, and Therapy Mode X Consequence Type interaction, $F(2,39) = 13.10, p < .001$ were obtained. Specifically, the No Fade groups differed significantly from the Fade groups, $F(1,39) = 17.08, p < .001$ and the No Therapist groups,

$F(1,39) = 19.58, p < .001$, which did not differ from each other.

Under no circumstances did any data analyses reveal any sex differences in weight loss in the experiment.

In summary, the data indicate that during the therapy period both the Fade and No Fade groups lost weight, with the Fade groups losing more. However, during the six month post-therapy period, the No Fade groups gained weight back. Indeed, they weighed no less six months after therapy than they did at the beginning of therapy. This is in contradistinction to the Fade groups, which despite not losing additional weight during the six months following therapy, were able to maintain the losses that had been achieved by the end of the therapy period.

Discussion

The finding that Fade and No Fade groups had lost a significant amount of weight compared to No Therapist groups by the end of the therapy period confirms the findings of other investigators that behavioral methods can produce reactive weight loss during the course of treatment (e.g. Horan, Baker, Hoffman, and Shute, 1975).

The present results clearly indicate the important role of the therapist in the area of self-control. The No Therapist groups approached, but did not achieve, significant weight loss during the treatment period, suggesting that, at least for the reinforcement and punishment procedures used in the study, meetings with the therapist are necessary for weight loss. The finding that Fade groups had lost more weight than No Fade groups by the end of the therapy period indicates that the "fading out" of the therapy meetings was more effective in producing short-term weight loss.

The fact that No Fade groups had gained back lost weight in the months after the therapy had ended supports the results of many studies arguing

that self-control procedures produce only reactive results (e.g. Horan, et. al., 1975); the finding that Fade groups did not regain lost weight during the same period implicates ^{the} reason why. The therapist needs to be gradually excluded as a source of control in order for adequate, sustained self-control, to develop.

The finding that the Punishment and Reinforcement procedures were equally effective suggests that the type of method of behavioral self-control may be less important in determining therapeutic efficacy than a great many other variables such as the frequency of therapist visitation, subject and therapist characteristics, etc. Further research into the specifics of particular reinforcement and punishment procedures is indicated.

Whether it was the therapist, per se, or the group meetings which were essential for weight loss in the present study deserves investigation as well. Horan et. al. (1975), found no difference among subjects being treated individually or in groups using behavioral methods similar to those of the present study. But the question of whether subjects might meet on a regular basis without a therapist and lose weight remains unanswered.

In summary, the present study poses a potentially embarrassing question for the therapist: are you hurting your clients by seeing them too much?

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TABLE 1

Subject Weight Loss for Each Treatment Combination at Therapy End

Therapy Mode	S U B J	S E X	PUNISHMENT				St. Dev. (%)	t Val.		S U B J	S E X	REINFORCEMENT				St. Dev. (%)	t Val.
			Pre- Wt.	Post Wt.	% Wt. Loss	(%)						Pre- Wt.	Post Wt.	% Wt. Loss	(%)		
FADT	1	M	195.5	173.5	-11.25					25	F	157.5	137.5	-12.70			
	2	M	215.0	195.0	-9.07					26	M	221.0	205.0	-7.24			
	3	M	170.5	160.5	-10.58					27	M	178.5	160.5	-10.08			
	4	F	171.5	153.0	-10.70	-9.70	1.92	13.26 *		28	F	176.0	163.7	-6.99	-9.14	2.32	9.89 *
	5	M	188.0	164.5	-12.50					29	F	152.0	143.0	-5.92			
	6	F	175.5	160.0	-8.83					30	M	210.0	190.5	-9.29			
	7	F	130.5	122.0	-6.81					31	M	193.5	169.5	-12.40			
	8	F	143.5	132.5	-7.67					32	F	162.0	149.0	-8.02			
NC FADT	9	F	171.0	164.0	-4.09					33	F	200.0	193.5	-3.25			
	10	M	248.5	235.0	-5.43					34	M	225.5	212.0	-5.99			
	11	F	160.0	150.5	-5.62					35	M	273.0	264.0	-3.30			
	12	F	148.5	140.0	-5.72	-5.00	1.62	8.13 *		36	F	173.0	166.5	-3.76	-4.01	1.40	7.55 *
	13	M	216.0	206.0	-4.63					37	F	140.5	145.5	-2.68			
	14	M	174.0	160.5	-7.53					38	M	193.0	181.0	-6.22			
	15	M	190.0	190.5	0.26					39	M	189.5	181.5	-4.22			
	16	F	192.5	176.5	-8.21					40	F	135.0	131.5	-2.59			
NC THER- APIST	17	M	198.0	196.0	-1.01					41	M	215.5	213.0	-1.16			
	18	F	173.5	170.5	-1.90					42	F	134.5	136.0	+1.12			
	19	F	135.0	136.5	+1.11					43	F	161.0	160.0	-.62			
	20	M	241.0	248.0	+2.07	-.32	1.39	.61		44	F	144.0	147.0	+2.08	-.51	1.59	.90
	21	M	248.5	246.5	-.80					45	M	183.0	179.5	-1.91			
	22	F	141.0	138.5	-1.77					46	F	130.5	136.0	-2.51			
	23	M	205.0	202.0	-.68					47	M	175.5	174.0	-.85			
	24	F	120.5	130.0	+7.88					48	M	211.5	211.0	-.24			

* Significant at $< .001$

TABLE 2

Subject Weight Loss for Each Treatment Combination Six Months After Therapy End

Therapy Mode	S		PUNISHMENT					t	Val.	S		REINFORCEMENT					t	Val.
	U	S	Pre-Wt.	Post Wt.	% Wt. Loss	$\bar{X}$ (%)	U			S	Pre-Wt.	Post Wt.	% Wt. Loss	$\bar{X}$ (%)				
	B	F						St. Dev. (%)		B	E						St. Dev. (%)	
	J	X								J	X							
FADE	1	M	185.5	171.5	-12.28					25	F	157.5	140.0	-11.11				
	2	M								26	M	221.0	187.5	-15.16				
	3	M	170.5	161.5	-10.01					27	M	178.5	158.0	-10.98				
	4	F	171.5	151.5	-11.66					28	F							
	5	M	188.0	171.0	-9.04	-10.06	-2.05	13.10*		29	F	152.0	141.5	-6.91	-9.56	3.07	7.62*	
	6	F	175.5	161.5	-7.98					30	M	210.0	197.5	-5.95				
	7	F	180.5	123.0	-11.83					31	M	193.5	176.5	-8.76				
	8	F	143.5	123.5	-13.94					32	F	162.0	149.0	-8.02				
NO FADE	9	F	171.0	167.0	-2.34					33	F							
	10	M	208.5	204.0	-1.81					34	M	225.5	221.5	-1.77				
	11	F	160.5	174.5	+3.25					35	M	273.0	270.0	-1.10				
	12	F	148.5	152.0	+2.36					36	F	173.0	176.5	+2.02				
	13	M	216.0	211.5	-2.08	-.26	-2.51	.27		37	F	149.5	151.5	+1.34	-.20	2.05	.34	
	14	M	170.0	176.0	+1.15					38	M	193.0	191.0	-1.04				
	15	M	190.0	201.0	+1.01					39	M	180.5	193.0	+1.85				
	16	F	192.5	185.5	-3.64					40	F	135.0	130.5	-3.33				
NO THERAPIST	17	M	198.0	201.5	+1.77					41	M	215.5	211.5	-1.86				
	18	F	173.5	171.0	-1.44					42	F	134.5	135.0	+.37				
	19	F	135.0	132.0	-2.22					43	F	161.0	158.0	-1.86				
	20	M	201.0	220.0	+4.98					44	F	144.0	142.0	-1.39	-1.08	1.66	1.72	
	21	M	248.5	241.0	-3.02	-1.60	-2.25	1.88		45	M	183.0	185.0	+1.09				
	22	F	141.0	143.0	+1.42					46	F	139.5	134.0	-3.94				
	23	M	295.0	290.0	-1.69					47	M	175.5	176.5	+.57				
	24	F	129.5	126.0	-2.70					48	M	211.5	208.0	-1.65				

* Significant at $<.001$

TABLE 3

Percentage Weight Loss 6 Months After Therapy Minus Percentage Loss at Therapy End

Therapy Mode	PUNISHMENT		St. Dev. (%)	t Val.	REINFORCEMENT		St. Dev. (%)	t Val.
	SUBJECT	Mean (%)			SUBJECT	Mean (%)		
FADE	1 M	-1.03	-0.61	1.00	25 F	+1.50	-0.11	3.06
	2 M				26 M	-7.02		
	3 M	+ .55			27 F	- .09		
	4 F	- .07			28 F			
	5 M	+6.16			29 F	- .00		
	6 F	+ .85			30 M	+2.81		
	7 F	-5.02			31 M	+2.61		
	8 F	-6.27			32 F	- .00		
NO FADE	9 F	+1.75	+1.70	2.56	33 F		-4.07	2.51
	10 M	+3.62			34 M	+1.22		
	11 F	+8.87			35 M	+2.20		
	12 F	+8.08			36 F	+5.78		
	13 M	+2.28			37 F	+5.82		
	14 M	+3.74			38 M	+5.18		
	15 M	+5.43			39 M	+6.07		
	16 F	+1.57			40 F	- .74		
NO THER- APIST	17 M	+2.78	-1.18	3.35	41 M	- .70	-1.80	1.85
	18 F	+ .46			42 F	-1.40		
	19 F	-3.33			43 F	-1.24		
	20 M	-7.05			44 F	-3.47		
	21 M	-2.22			45 M	+3.00		
	22 F	+3.19			46 F	-1.43		
	23 M	-1.01			47 M	- .28		
	24 F	-2.31			48 M	-1.41		

* Significant at $< .01$